

Please amend the application as follows:

**In the Claims:**

Please amend Claim 27 to read as follows:

1 13 1 27. (Once amended) A composition as in claim 21, said barrier  
2 24B composition additionally comprising one or more compounds selected from the  
3 DI group comprising nootkatone,  $\alpha$ -cedrene, zizanol, and bicyclovetivenol.

**REMARKS**

Claim 27 has been amended. Claims 1-29 remain in the application.

Claim 27 has been amended to clarify that this claim is for a composition, and not a method claim. Support for this amendment may be found in the Description (specification), page 18, line 14, to page 19, line 7; and in Claims 21 and 27 as originally filed.

In accordance with 37 C.F.R. § 1.121 as recently amended, a marked-up version of the amended claim and a clean version of the amended claim are presented in the Appendix.

Claims 1-29 remain in the application.

***The § 112, Second Paragraph, Rejection***

Claims 1-27 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for the phrase "essentially free of vetiver oil." This language is found in the independent claims 1, 9, and 21.

The MPEP states that definiteness of claim language must be analyzed "in light of: (A) The content of the particular application disclosure; (B) The teachings of the prior art; and (C) The claim

interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.” MPEP § 2173.02.

It is respectfully submitted that a person of ordinary skill in the art, who had read the teachings and examples in the specification would naturally understand the limitation “essentially as being the converse of the long-accepted transitional phrase “consisting essentially of.”

M.P.E.P. § 2111.03, paragraph 4 provides in part (citation and emphasis omitted):

The transitional phrase “consisting essentially of” limits the scope of a claim to the specified materials or steps “and those that do not materially affect the basic and novel characteristic(s)” of the claimed invention.

Thus, where claims 1, 9, and 21 recite that “the composition is essentially free of vetiver oil,” a person of skill in the art would readily understand that limitation to mean that one component should not be present in a concentration sufficiently high that it would substantially alter the effectiveness of the listed components of the recited composition. A person of ordinary skill in the art would read the specification and the claims as originally filed, recognize that the invention pertains to the listed extracts of vetiver oil, not to vetiver oil itself. However, in almost any extraction process, a small amount of the starting material may be retained in the isolated extract. This can be especially true for vetiver oil, which is known to contain over 300 compounds. See specification, page 3, lines 9-16. Thus, a person of skill in the art would recognize that the extracts of vetiver oil as discussed in the specification refer to extracts that are essentially free of the starting material, i.e., any amount of the original vetiver oil or its other compounds left in the extract would be present in insufficient amounts to substantially alter the effectiveness of the nootkatone, zizanol, or bicyclovetivenol.

The term “essentially” is a relative term that MPEP § 2173.05(b) notes has been held by a court to be “definite” because the specification contained guidelines and examples that were considered sufficient to enable a person of ordinary skill in the art to draw a line between unavoidable impurities in starting materials and essential ingredients. *In re Marosi*, 710 F.2d 799, 281 USPQ 289 (CCPA 1983).” MPEP § 2173.05(b). The specification clearly teaches that the essential ingredients in Applicants’ invention are from one or more of the listed compounds that were identified in extracts of vetiver oil, and not any impurities found in those extracts. See, for example, specification, page 1, lines 16-18; page 4, lines 19-20; page 5, lines 4-18; Examples 1-6.

With these teachings from the specification, a worker of ordinary skill in the art who wished, for example, to use nootkatone to protect against termites would readily understand that using the nootkatone does not require that the nootkatone, as an extract of vetiver oil, be completely free of vetiver oil. But any vetiver oil that might be present in the composition should be present in sufficiently low concentrations so as not cause substantial interference with the effectiveness of the nootkatone. Applicants thus respectfully submit that this rejection should be withdrawn.

### ***The §112, First Paragraph, Rejections***

Claims 1-27 were rejected under 35 U.S.C. §112, first paragraph, as containing subject matter said not to be described in the specification in a way to convey to one skilled in the art that the inventors had possession of the claimed invention at the time the application was filed. Specifically, the Office said that the phrase “essentially free of vetiver oil” was new matter.

Applicants respectfully submit that this phrase is not new matter but was implicitly and inherently described in the specification and claims as filed. The written description requirement means that “an applicant must convey with reasonable clarity to those skilled in the art that, as of the

filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed.” MPEP § 2163.02. Moreover, the MPEP recognizes that “[t]he subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement.” MPEP § 2163.02.

In the current case, Applicants added the language “essentially free of vetiver oil” to the claims reciting that certain named compounds identified from extracts of vetiver oil were effective against termites. This additional claim language is implicitly and inherently supported by the originally-filed disclosure. A person of ordinary skill would have understood, at the time the application was filed, that the description implies the limitation. MPEP § 2163.

The description of the invention in the specification refers many times to certain extracts of vetiver oil. For example, the specification, page 1, lines 16-18 states “[t]his invention pertains to a method to repel subterranean termites using certain extracts of vetiver oil, for example nootkatone,  $\alpha$ -cedrene, and a combination of zizanol, and bicyclovetivenol.” Again, on page 5, lines 4-18, it is stated:

We have discovered that certain extracts of vetiver oil are effective repellents and toxicants of termites. While testing the termite repellence of vetiver grass roots and of vetiver oil isolated from the roots, we developed a bioassay using chambers with treated sand. We tested extracts from vetiver oil that had been separated using a silica gel column eluted with hexane and increasing concentrations of methylene chloride. Four of the five extracts were shown to have termite repellent activity. Upon further analysis of these extracts using gas chromatography/ mass spectrometry, nootkatone was found to be a component of one of the termite-repelling extracts from the vetiver oil. Commercially available nootkatone was used to test for repellence against termites. We discovered that nootkatone is an effective repellent and toxicant of termites at concentrations as low as 10  $\mu$ g/g. Nootkatone

reduced feeding and tunneling activity, and caused an increase in mortality in Formosan subterranean termites. Additionally, we found that termites were repelled by commercially-available  $\alpha$ -cedrene, a component of vetiver oil. We also isolated and tested for bio-activity extracts from vetiver oil which contained primarily zizanol and bicyclovetivenol; the extracts were shown to be effective repellents and toxicants of termites.

The examples of termite effectiveness use either direct extracts of vetiver oil, or commercially bought compounds that were identified as effective in the extracts of vetiver oil. At no time does the specification refer to use of vetiver oil alone. One skilled in the art would naturally understand that when extracts are used, there will normally be some residual impurities from the starting materials. The fact that isolated extracts from vetiver oil are effective against termites, as shown in Examples 2 and 6, implies that the extract was free of any amount of vetiver oil that would substantially affect the results, i.e., that it was "essentially free of vetiver oil." Moreover, as shown in Example 2, Tables 2 and 3, only certain extracts of vetiver oil were effective as repellants against termites. The fact that extracts 1-5 were not effective against termites is evidence that whatever impurities, including vetiver oil, might be found in the extracts, the amount is so small that it did not show any effectiveness against termites. Hence, although some impurities are almost inevitable, the amount is too small to show an effect. Hence, "essentially free of" is inherently described in the specification. Applicants thus respectfully submit that this language should not be considered new matter, and that this rejection should be withdrawn.

### ***The § 103 (a) Rejection***

Claims 21-24 were rejected under 35 U.S.C. §103(a) as being obvious over Takagi *et al.* (EP 1033076; 9/6/00).

Claims 22-24 depend from Claim 21. Claim 21, as discussed above, is neither anticipated nor made obvious by Takagi *et al.*, and the terminology “essentially free of vetiver oil” should not be considered indefinite because of the discussion above. Thus it is respectfully submitted that the § 103 rejections should be withdrawn.

### ***Claim 27 Objection***

Claim 27 was objected as being a composition claim that reads like a method claim. Claim 27 has been amended to read as a composition claim. In light of this amendment, Applicants respectfully submit that this objection should be withdrawn.

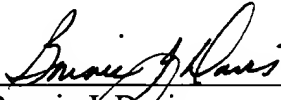
### ***Statement of Takagi Reference as §102 Art***

In the last paragraph, numbered V, the Office stated that Takagi does not qualify as 102 art. But the initial sentence stated that “[r]ejection of claims under 35 USC 102(e) will be maintained.” Since the Takagi reference and its family members are not U.S. patents or patent applications, Applicants argued in the response of March 14, 2002, that this reference could not be a 102(e) reference. Applicants are assuming that this statement that the rejection “will be maintained” is a typographical error. If this is not the case, we are asking the Office to please clarify this statement.

### Conclusion

For the reasons discussed, it is respectfully submitted that all pending claims are in condition for allowance. If the Office disagrees with any of these remarks, or if other issues arise that may present an obstacle to allowance, the undersigned would welcome a telephone call to discuss such matters before further action is taken. Otherwise, allowance of Claims 1-29 at an early date is solicited.

Respectfully submitted,



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Bonnie J. Davis

Registration No. 41,699

Taylor, Porter, Brooks & Phillips, L.L.P.

P.O. Box 2471

Baton Rouge, Louisiana 70821

(225) 381-0236

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## Appendix -- Marked-Up Claim Amendment

1           27. (Once amended) A composition as in claim 21, [additionally  
2 comprising treating the material with a] said barrier composition additionally  
3 comprising one or more compounds selected from the group comprising  
4 nootkatone,  $\alpha$ -cedrene, zizanol, and bicyclovetivenol.